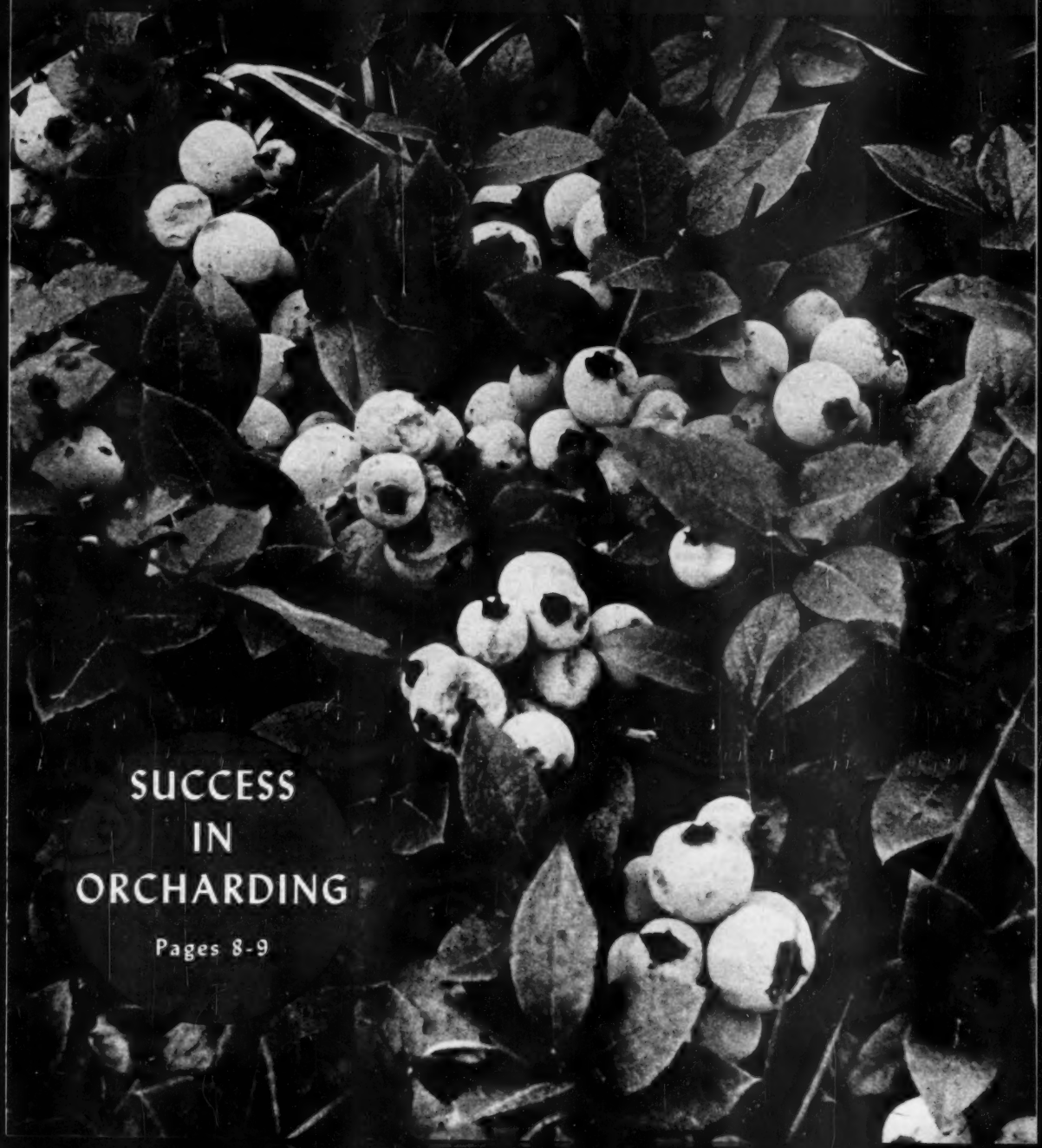
American FRUIT GROWER

AUGUST • 1949



SUCCESS IN ORCHARDING

Pages 8-9

CHITWOOD'S Smart idea!

He uses Hollywood stunt men to hurl cars through flame and space for 1,500,000 paid admissions.

THREE-TIME RACING CHAMPION Joie Chitwood of Reading, Pa., has, in five years, parlayed his idea for a thrill troupe of stunt drivers into a standout attraction. Chitwood crashes cars into fiery walls, leapfrogs them at 60 miles per hour, turns them end over end. His thrill-a-minute card of auto stunts, as dangerous as they look, attracts over 1,500,000 thrill-seekers each year. To play 300 engagements throughout the East and Midwest, Chitwood transports his equipment with nine Ford Trucks. These, plus the twenty-five Ford cars in his three troupes, make Chitwood a 100% Ford user and booster.

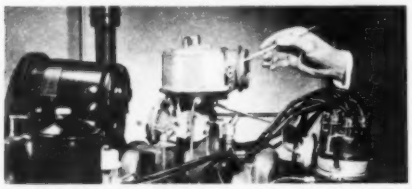
▲ **JOIE CHITWOOD** of Reading, Pa., won the Eastern AAA racing crown three times; and drove in the big event at Indianapolis six times. This driving background helped him make auto-stunting a million-dollar business.

◀ **CLIMAX** of the show is the spectacular "Ramp Jump." Ford Truck user Joie Chitwood has one Ford car leap 85 feet through the air over a second car which swerves underneath. He uses stock model 1949 Ford cars.

CHITWOOD'S Smart move!

He uses nine Ford Bonus-Built Trucks in his business . . . Smart Move! . . . Smart Business!

"STEERING is as easy as rolling off our 'Wing-Over Ramp'," says Chitwood. Replies Keeter, "That's because of Ford's 3-tooth Roll Action steering gear. Two rows of needle bearings support the steering roller."



"EXCLUSIVE is the word for this carburetor in the F-8 Ford Truck. A dual throat for fast, thrifty vaporization. Correct metering of fuel at all operating angles is assured through dual concentric downdraft design."

"THIS IS THE STAR of my troupe," says Joie Chitwood to Ford Dealer Pat Keeter (left). "We expect a lot from our trucks like this 145 h.p. Ford Big Job, and we get it. We play Clearfield, Pa., one night, Faribault, Minn., 36 hours later. Bedford, Pa., 48 hours after that. Ford Trucks pull us through, on time." "Yes," replies Keeter, "Ford Trucks dish it out, and they can take it. They can take it because they're Bonus Built. Over 150 different Ford Truck models are built extra strong to last longer."

CHITWOOD'S Smart bet!

FORD TRUCKS LAST LONGER!

Using latest registration data on 6,106,000 trucks, life insurance experts prove Ford Trucks last longer!

Published monthly by American Fruit Grower Pub. Co., 1370 Ontario St., Cleveland 13, Ohio. Entered as second class matter at Post Office at Cleveland, Ohio, under the Act of March 3, 1879. Additional entry at Mount Morris, Ill.

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- **CUT DOWN** need for spot picking
- **EASE** your labor problem by stretching your picking season
- **INCREASE** your yield of "money" fruit

*Reg. U. S. Pat. Off.

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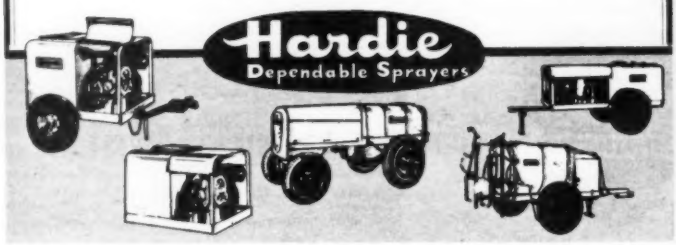

AUGUST 1949

VOL. 69 No. 8

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THIS MONTH'S COVER

Blueberry pie season is at hand, and this month's cover features the Maine low bush variety which grows about 4 inches high. This variety is essentially wild and does not grow well when transplanted but is successful when the land is kept clean of other growth. A better quality berry will also develop and the vines will spread if the land is burned every second year. Photo by Kosti Ruohomaa, Black Star.

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LETTERS TO THE EDITOR

Your Experience Can Help Others

Dear Sir:

Fruit growers are the biggest users of machinery in agriculture, yet I have not read a word in your highly useful magazine about the need for eternal caution to prevent unnecessary accidents. To illustrate: Yesterday my husband, because of a loose guard pipe on the sprayer-tower, fell and suffered a broken collarbone. I think you would be doing a fine public service if you told about some of these accidents and how they could be prevented.

Mentor, Ohio — Mrs. Florence Unkel

Every year we emphasize some aspect of safety for fruit growers. Because those who have suffered accidents can speak from experience, we invite our readers to send us, in a letter, the story of "What an accident taught me". AMERICAN FRUIT GROWER will pay $5 for each letter printed. Thus those who have had accidents in the orchard can help to prevent similar mishaps from happening to others. So take a moment or two to write the story of your experience and send it to the Orchard Safety Editor, AMERICAN FRUIT GROWER, Cleveland 13, Ohio.—Ed.

Will Gander Steal the Strawberries?

Dear Editor:

In regard to the article, "2,4-Geese . . . Believe It or Not!" in the April issue, I would like to know if the geese will perform during the last grassing on the strawberry beds, and, at the same time, will not eat the strawberries when they ripen.

Washington, D. C. — Rene Clerc

W. W. Magill, author of the article in question, writes: "Here in Kentucky we start our new berry fields with March or April plantings; we plant one year and fruit the following year. The geese are pastured in the new berry fields from the time the berries are planted until August or September, and, in this case, it is not necessary to consider whether or not geese will eat the berries. Since I have never seen geese in a berry field at harvesttime, I do not know whether or not they would eat the berries.

"If the crabgrass has a big start and has practically formed a sod, the geese are not likely to keep it under control; but with our Kentucky methods we set our berry plants on fields that are free of all weeds at the time of planting and put the geese in at once."—Ed.

Combating Plant Lice

Dear Sir:

In reply to L. C. Bowers' inquiry regarding plant lice spray for plums in the April issue, I would like to suggest that he try nicotine sulfate (Black Leaf 40) at the rate of 1 pint per 100 gallons of water. I also suggest that he use about 2 pounds of soap per 100 gallons to the above solution as a spreader or sticker. Better yet is the use of Triton B-1956 as a spreader or sticker. This is the best spreader I have ever used; it is made by Rohm & Haas Co., Philadelphia, Pa.

The above combination has worked very successfully for me on apples, peaches, plums, apricots, and cherries. I have had wonderful results with this nicotine killing most every type of chewing and sucking insect. I believe it would be safe to use this as late as one week before harvest, but it would be a good idea to make sure by writing the manufacturer of nicotine sulfate.

Monroe, Va. — Donald S. Watts

If used as late as one week before harvest, it is suggested that 2 or 3 ounces of lime per 100 gallons be included to insure dissipation of the material.—Ed.

Flash Pasteurizers

Dear Sir:

In the February issue of AMERICAN FRUIT GROWER in Letters to the Editor there was an item on apple juice. I would like the addresses of some manufacturers who make flash pasteurizers mentioned in connection with the Red Cheek juice.

We use benzoic acid and sodium benzoate for preserving fresh apple cider, the amount being very small because we ship it as soon as it is made. This is satisfactory during the cider season but is not practical during the summer months when cider must be stored. For this reason we wish to pasteurize cider, but so far the equipment and methods explained to us have not been up to par.

Canon City, Colo. — J. B. Silengo

Flash pasteurizers are sold by the following companies: Cherry-Burrell Corp., Little Falls, N. Y.; W. E. Mallory & Company, Ann Arbor, Mich.; American Utensil Co., Chicago, Ill.; and the Berlin Chapman Co., Berlin, Wis.

Further information about flash pasteurization can be obtained in the following bulletins: Apple Juice Preparation and Preservation, Circular Bulletin 206, Michigan State College Agricultural Experiment Station, East Lansing, Mich.; The Pasteurization of Apple Juice, Circular No. 181, New York State Agricultural Experiment Station, Geneva, N. Y.—Ed.

Sheep in the Orchard

Gentlemen:

I have an idea of raising sheep in a peach orchard where vegetation is left for a sod. I would like to hear from some grower who has had experience with sheep in an orchard. My main question is, will they eat on trees when plenty of vegetation is available to them?

Mulkeytown, Ill. — Maral Allard

Running sheep in the orchard is not an uncommon practice. For more than 10 years W. W. Ellenwood of Carpenter, Ohio, has had favorable results with 50 to 550 sheep in his orchard. He says: "My practice has been to use the orchards for late fall (after harvest) pasture and for winter pasture. I take the sheep out in the spring when the buds start to swell. However, I have known of sheep pasturing in orchards right through the summer with very little damage. I have just not been bold enough to try it.

"They do a nice job of cleaning up under trees in late fall. They seem to thrive on three-leaved ivy. Some years ago I pastured sheep in an older orchard quite well covered under the trees with ivy and the sheep ate it freely.

"I keep plenty of salt and minerals before the sheep when pasturing in the orchard and do not pasture it too close. I feel that both of these features are important.

"The sheep have caused very little damage in the orchard. There has been some damage to lower (usually too low) twigs by eating of swelling buds when I have left the sheep in too late in the spring."—Ed.

GREAT NEWS
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STORAGE LIFE

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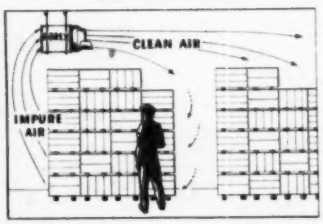

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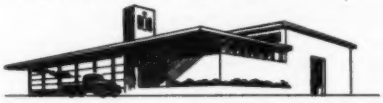
You have a choice of gear ratios, transmissions, axles and tire equipment to meet your own hauling requirements.

Take advantage of this specialization—this quality construction for long life—this complete service organization. See your International Dealer before you buy any truck.



International Harvester Builds McCormick Farm Equipment . . . Farmall Tractors . . . Industrial Power Motor Trucks . . . Refrigerators and Freezers

INTERNATIONAL TRUCKS

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Strawberry bed sprayed in September, 1948, with three-fourths pound 2,4-D, shows normal growth and fruiting in June, 1949.

2,4-D · TCA · IPC · IN THE BERRY PATCH

By R. F. CARLSON
Michigan State College

GROWERS of strawberries, raspberries, grapes, and other small fruits spend much time and money controlling weeds. The cost for an acre of strawberries for one year is about $50. Some growers, however, are finding that this annual cost can be reduced appreciably by the proper use of new chemical herbicides. If the herbicide is applied at the proper time and at the right concentration, hoeing and cultivating can be cut to a minimum.

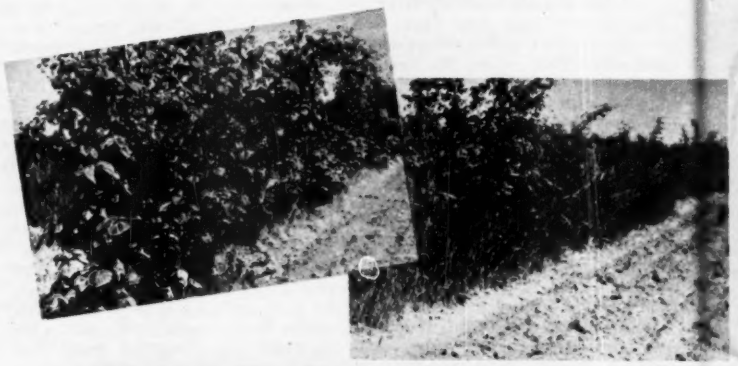
Many of the small, tender weeds in the strawberry field can be controlled with 2,4-D. One-half pound of actual 2,4-D or one-fourth to one-half pint of a 40% solution of 2,4-D per acre should be applied two to three weeks after the plants are set or when weeds are emerging. This amount of 2,4-D may be put into as little as five to 10 gallons of water, thus making a concentrated spray which materially reduces the labor involved. Care must be taken to apply the spray evenly over the entire area at the rate per acre given, otherwise injury may result. A second application may be necessary after the berries have been cultivated. Fall application should be avoided because of the effect on the development of flower buds.

If the material is applied prior to a dry period, or if the soil is sandy and the general conditions droughty, growth of the plants will be arrested somewhat and symptoms of twisting and bending may become apparent. The plants will soon recover, however, following a rain or irrigation. Most of the weed seedlings will be killed and only the more resistant weeds and grasses will remain. These resistant weeds should be hoed out immediately to prevent them from going to seed.

Pre-planting applications of one to two pounds of actual 2,4-D per acre also have shown considerable promise. The spray is applied to the entire surface of the area to be planted a day or two before the plants are set. Care should be taken not to disturb the soil excessively when the plants are set; otherwise more weed seeds are brought nearer the surface where they will germinate and grow. The planting should not be cultivated until it is necessary to loosen the soil and remove weeds that were not killed with 2,4-D.

Common chickweed is a serious weed in many commercial strawberry plantings. This weed germinates in the fall and grows and remains green all winter. Recent research has shown that IPC (Isopropyl N-phenylcarbamate) controls this weed without in-

(*Continued on page* 15)



At top—Row of raspberry plants shown at left was sprayed in November with 30 pounds of TCA for control of quack grass and June grass. The raspberry plants shown in photo at right were not treated. Pictures were taken the following July.

A pre-planting application of two pounds per acre of 2,4-D resulted in the weed-free area in this strawberry field. Weedy area in foreground was not treated. Application of 2,4-D is made a day or two before the plants are set.

SUCCESS IN

Two successful growers look back at a lifetime of growing fruit. Their unanimous conclusion: Fruit growing is alive with many fine opportunities available to those who will open their eyes and look around.

By ARTHUR L. SHUTTLEWORTH

FOR THE LAST 38 years we have owned and operated a fruit farm in Chautauqua County, New York. We did very well with 58 acres of vineyard until 1924, when the bottom dropped out of the market.

The future of the grape industry looked rather bad, so we removed the poorest of the vineyard, then went over the list of fruits that could be grown in our section and, naturally, chose the fruits that would bring returns most quickly after planting. We chose strawberries, red and black raspberries, and blackberries, with a long range planting of peaches and sour cherries.

We had always grown a few berries, but a large scale planting presented difficulties in harvesting and selling. Berry pickers come to you to earn money. To that end it was up to us to grow berries in the best possible manner, having rows uniform in production.

To hold our pickers we had to provide steady work throughout the season. This we accomplished by growing an acreage of beans for the canning factory and several acres of red currants. When a berry field was picked over, a welcome change was had by picking currants, which were sold by the pound to the factory.

There are two outlets for a berry crop open to every grower — the wholesale city market and the cannery. Of the two we have always chosen the city market, doing all our business with one commission firm and making our own deliveries. We were surprised to find that 100 to 200 crates of berries could be sold much more readily than a few, and at a better price.

To protect ourselves from loss in the wholesale market we had to put up a uniform pack, each pint or quart containing nothing but sound fruit—no overripe, dirty, or bruised berries—and each container had to be evenly filled. The baskets of berries were never put in the crate while the heat from the sun was in the fruit. As soon as filled we also removed every 20 or 30 crates to a room where the temperature was held at 60°. If colder the fruit would sweat when loaded on the truck in the evening.

Anyone who has handled a crowd of berry pickers knows the above is a large order and before we could get the whole thing working we had some lively times, including one sit-down strike.

The question, of course, arises: Does it pay to go to all this trouble? The answer is most emphatically that it does. Your pickers are better paid and soon take pride in their work. Your commission man is able to build up a regular trade that moves your produce off the market early so that you are never caught in that dumping process that clears the walk for the next day's sales. Prices received are uniformly higher than the average.

Careful Picking Pays Dividends

The best of fruit can be ruined for the market by the pickers. One summer I had the opportunity during the late berry season to see how this works out. We had sent 35 crates to market the night before. Another grower still had 30 crates on the walk when I arrived at the market at 10:00 a.m.

I said to the commission man, "What's the matter? Can't you sell berries?" "Sure, I can sell berries, but look how they put them up!" We examined those berries and decided that on the bushes the fruit had been just as good as mine, but my fruit had been sold early!

Later in the day I was on the Chippewa retail market and came to a stand where blackberries were offered for sale. There were two lots, both in wooden crates. The owner came up, saying, "Have some berries, Mister?" I asked the price. "Well, these are 25 cents and here are some very nice ones for 15 cents." Meantime he had picked up a quart of the 25-cent berries and rolled them out in his hand. They did look nice and I thought familiar but my berries had been sent to market in paper crates.

"No," I said, "I am a grower. Name is Shuttleworth." "Oh," he said, "Then these are your berries. You see I put them in wood crates so they would look like the others." While we were talking he had three customers. One bought one quart, the other two each bought two quarts, but all bought the 25-cent berries, although he tried hard to sell them the cheaper ones.

Changing over from grapes to more diversified crops proved to be a wise move for us as we built up a good business in the summer berries as well as later in the season with everbearing strawberries and red raspberries. During the war we had to stop growing the everbearers because of government price fixing. Then we began growing plants for the nurseries which has worked in well with our other enterprises and has proved profitable.

ORCHARDING

By W. C. HENDERSON

OPPORTUNITY knocked when I was admitted into the Cornell College of Agriculture at Ithaca, N.Y., and was enrolled in the general course in horticulture. This training, together with a background of several seasons in Geneva, N.Y., nurseries and in various orchards, paved the way for a healthy, prosperous life.

Opportunity knocked again just after World War No. 1 when I was engaged as manager on a large fruit farm near the Geneva Experiment Station and continued in that capacity for 12 years. This was a 1000-acre enterprise devoted to 100 acres of apples, 100 acres of cherries, 75 acres of peaches, 15 acres of pears, canning crops, general farming, and the finishing of 100 head of steer every year.

I was 25 years old at that time. There were mistakes and headaches with that job, but what an opportunity for experience! From that endeavor came one of the largest orchards in this part of the county.

Large fruit operations sometimes become unwieldy but my experience has taught me that it is no more difficult to harvest several hundred acres of cherries than it is to handle, say, two or three acres. Buyers or pickers prefer to operate from large blocks rather than from several small plantings.

For those just starting in the fruit growing business, it is best to shop around and to pick out a going concern, one that is in healthy condition. If the previous owner has prospered, there is a greater chance that you will.

About 1930 I began to realize I had had sufficient experience and had gained enough of the worldly goods to shift for myself. I purchased just such an established farm in New York State, along Seneca Lake.

I found to my surprise that the orchard had one of the longest growing seasons in this part of the country due to a strong night air current coming from Keuka Lake to the west. Season after season I watched the grapes in this area freeze from the low temperatures in early fall, but that strong air drift protected our grapes.

A grower's success depends not only upon determining the wants of the public but also on the selection of a crop that is best suited to his particular soil and location.

I like to think, too, of another of my opportunities as a grower and that is the close relationship I have had with the New York State Agricultural Experiment Station at Geneva. It is to the men who constitute its staff that I owe much of my success.

Water Is Important

Water supply is very essential in the growing of small fruits and while we have plenty of water to look at in the form of Seneca Lake, which is 35 miles long, about four miles wide, and 682 feet deep, it still is a problem to lift water for irrigation 150 feet and pump it three-quarters of a mile. As an aid in holding soil moisture we mulch with straw between some of the berry rows.

A stunt we use in our cherry orchards is to throw the prunings up under the trees and cover them with about a foot of mulch. The prunings hold the mulch off the ground and thus make it last several years longer.

Starling or bird damage has been pretty well controlled in our cherry orchards. We planted a scattering of Early Richmond throughout the Montmorency orchards. When cherry picking time approaches, the public in nearby towns and cities is invited to pick its own fruit. As a result, there usually are several families scattered over the orchards during the entire cherry ripening season and this activity seems to discourage the birds.

Everyone has the opportunity to belong to the New York State Fruit Testing Association at Geneva, N.Y., and thus keep posted on what is new in fruit varieties. The association has been a constant source of supply for our best raspberry stock, the latest of which is a so-called everbearing red, named September.

Experience is necessary in the growing of fruit. Without it the enterprise might become costly. But there is opportunity for all who have the spirit of adventure, for there still are frontiers to cross in agriculture.

Diversification is another factor in the successful development of a fruit business. We start our season just as the frost is out of the ground by shipping berry plants to nearly every State in the Union and filling orders for ornamental evergreens, of which we have about 40,000 finished trees. This phase of our enterprise has proved to be a lifesaver when the cold winter or late spring frost has reduced our fruit crop to almost nothing. During the off fruit season we do landscaping of private homes, parks, housing projects, and schools.

My experience as a fruit grower and nurseryman has convinced me that the success or failure of a man engaged in this business depends more upon his skill as a prophet than upon his ability as a producer, that gains coming from the ability to foresee future demands and to plant and prepare for them far exceed the margin of profit which competition presents.

I have heard some people remark that they never have had a chance and that everything seems to go against them. But opportunities are what you make them. Your profits, if any, will be the measure of your efficiency.

Peaches lose about 50 degrees of heat in 15 minutes when treated in the "Stericooler."

Top—Portable mechanical precooling units. Above—The new built-in fan cars permit precooling in transit.

KEEP PEACHES COOL!

By H. A. CARDINELL, Michigan Experiment Station

OLD AND EXPERIENCED peach growers in Michigan often relate that before the automobile was developed farmers from Nebraska, Iowa, and Missouri came to Michigan's peach belt and hauled peaches to their communities by team. There are no official records of the loss from bruising and decay, and very likely such loss wasn't so important with peaches that cost 25 cents a bushel f.o.b. Michigan.

During the last five years, however, 10 to 50 per cent spoilage on some shipments costing $3 to $6 per bushel f.o.b. shipping point presents a serious situation to the industry.

Growers and buyers of peaches know that the more distant the market the longer the storage period while the fruit is in transit, and the higher the temperature the "greener" the fruit must be and the greater will be the loss from spoilage.

In a recent report of peach shipments unloaded and inspected in New York City during eight consecutive years, 1129 carlots, or 50 per cent, showed an average of 3.8 per cent decayed fruit. Brown rot caused 49 per cent of the spoilage, and 39 per cent was due to black mold or Rhizopus.

Of the 2258 carlots of peaches inspected, those from California showed the highest percentage of decay (10 per cent), due no doubt to the eight or 10 days the fruit was in transit.

The report proves that nearness to market is a measurable asset to shippers and buyers. Peaches from Arkansas showed 2.6 per cent decay, Georgia peaches had 1.9 per cent decay, whereas short-haul fruit from Maryland averaged only 0.4 per cent spoilage, and New York State peaches shipped to New York City averaged only 0.2 per cent decay.

Michigan had too few shipments to New York City to be included in the study, but very likely Michigan peaches could be expected to place somewhere between Ohio's 1.0 per cent and Illinois' 1.3 per cent spoilage.

If one considers all the factors involved in endeavoring to grow, pack, treat, transport, and market perfect peaches, 80 per cent of the responsibility rests with the producer. The grower is the only person who can control variety, yield, fruit size, and pests, and segregate fruit of like maturity, free from bruises.

The packing operation accounts for about 10 per cent of the market quality. The final 10 per cent is the responsibility of the buyer in the way of transportation, care in handling, and the temperature maintained within the fruit from the time it is loaded until it is consumed or processed.

Why the majority of Midwest peaches are not precooled before or after packing, in fact, are packed warm, trucked warm, and sold warm, continues to be a mystery.

For several years most packing houses have been following the practice of blowing sulfur dust over peaches as they are being brushed.

The Michigan Experiment Station in co-operation with several agencies and packing houses has attempted to compare the relative value of brusher-dusting and the newer method of hydrocooling with a liquid germicide, such as the chlorine-type compound used in a patented device called the "Stericooler", manufactured by Food Machinery and Chemical Corporation.

(*Continued on page* 16)

NATIONWIDE FRUITS

BERRIES

● Requirements for a successful highbush blueberry planting are good air circulation around the roots, plenty of moisture, good soil drainage, and an adequate supply of iron, manganese, and nitrogen, the latter preferably in the form of sulfate of ammonia, says the New York Experiment Station. Such conditions are akin to those found in the natural habitat of the wild swamp blueberry.

In tests where plants were set on wet, poorly drained mounds vigorous growth was obtained by mixing sawdust with the soil and applying ammonium sulfate.

A heavy sawdust mulch conserved moisture where the blueberry planting was on a high, well-drained knoll.

Plants in an acid, heavy clay soil failed even when supplied with nutrients, emphasizing the importance of aeration.

● A half million more dollars went into the pockets of Maine blueberry growers in 1948 than in 1947, the Maine Department of Agriculture says. An increase of 42 per cent in the blueberry crop, which totaled 422,629 bushels, accounted for some of the additional dollars, and a return of three cents more per bushel accounted for the balance.

Thirty per cent of the total 1948 crop went to freezers, or a record amount of 5,261,813 pounds, against a five-year average of 2,505,569 pounds.

The low bush type of blueberry is grown in Maine.

● The Marshall variety of strawberry, one of the best quality varieties for processing, is notoriously susceptible to the virus disease known as "strawberry yellows" or xanthosis. The disease has been prevalent on the West Coast for several years and has now appeared in New York State strawberry beds, where symptoms are stunting, loss of vigor, and reduced yields.

However, some varieties of strawberries grown in the East do not show the symptoms readily. In order to discover disease-free stock the New York Experiment Station is using the Marshall as a test plant and grafting runners of these varieties onto healthy runners of the Marshall variety. Under controlled temperature in their greenhouses, diseased plants transmit the virus to the Marshall, where it is readily detected.

Any virus-free stocks which are found are to be subjected to further test and then propagated for distribution. In the meantime, growers are urged to use only healthy, vigorous plants.

A promising new strawberry, known for the present as Washington No. 220, is being tested on a semi-commercial scale by a selected group of growers and processors in Washington State. The variety was developed by Dr. C. D. Schwartze of the Western Washington Experiment Station especially to meet the acute yellows disease problem. In experimental work the new berry has compared well with the famous Marshall, the berries being large, attractive, and firmer than Marshall.

FIGS

● A heavy mulch of leaves or similar material has proved beneficial to fig trees growing in soil infested by root-knot nematodes. Growers whose figs tend to be "puny" and unproductive may well try applying leaves to the surface of the soil.

Figs are highly susceptible to the nematode that is found in many soils of the southern States. This susceptibility is particularly noticeable during prolonged periods of dry weather, when unmulched trees wilt more quickly than trees that are mulched or are growing in free or lightly infested soil.

Florida Experiment Station workers point out that one known benefit of a heavy mulch is the temperature and moisture control that it exerts. The mulch protects the soil from the hot sun, thus checking the evaporation of soil moisture. Another benefit from a leaf mulch is the organic matter and plant food that the leaves provide.

Fig trees seem to suffer most from root-knot in somewhat sandy, porous soil which is subjected to long periods of comparatively high temperatures and heavy seasonal rainfall. Such soil is ideal for the development of the root-knot nematode.

CHERRIES

● Vital statistics concerning the sweet and sour cherry industry of Michigan are being obtained by means of a questionnaire sent to all cherry growers in the State.

Upon early compilation and release of the statistics growers will know the number of cherry trees growing in their State as well as the age of these trees. Thus they can better govern their future plantings.

This information also is expected to be of value to the State Cherry Commission in developing promotional advertising programs. Michigan heads the list of sour cherry producing States in the U. S., producing over half the total tonnage.

● The "Barbados cherry" has a vitamin C content many times higher than most fruits. Analysis of fruits from plants growing at the Subtropical Experiment Station at Homestead, Fla., revealed that they contain from 1500 to 2000 milligrams of ascorbic acid per 100 grams of fruit as compared with 10 to 80 milligrams for many cultivated fruits and vegetables.

The Barbados cherry is a tropical plant that is widely grown in the tropics and to considerable extent in southern Florida as an ornamental and for its fruit for home use.

NUTS

● A toxic chemical compound, known as juglone (from the scientific name of the black walnut, *Juglans nigra*), is supposed to be given off by the roots of black walnut trees and to affect plants growing near-by. Plant scientists of the USDA, in an effort to determine whether the injury might be due to competition between the trees and the plants for water and nutrients, planted two varieties of tomatoes under large bearing walnut trees.

The test showed no evidence of a poisonous effect.

State NEWS

• Mother Nature Takes Over Thinning Job in Dry Areas
• Disease Problems Face Georgia Growers

MAINE, *July 8*—The Highmoor Farm at Monmouth will be the scene of the Maine State Pomological Society summer meeting on August 24.

Apple production guesstimate is taking a sharp dip. Looks like a crop 60 to 70 per cent of last year. Very heavy June drop. Aphids are a problem in most orchards.—*Rockwood N. Berry, Sec'y, Livermore Falls.*

NEW HAMPSHIRE, *July 11*—Orchards haven't suffered from the drought as much as pastures and some farm crops. Heavy June drop has reduced the apple crop. Most growers, however, are reporting from 25 to 100 per cent larger yield and better quality than last year. The dry weather has been favorable for red mite development.—*E. J. Rasmussen, Ext. Hort., Durham.*

VERMONT, July 11—The Addison County Horticultural Field Day is scheduled for August 20, at Shoreham.

Continued abnormal temperatures and drought are restricting fruit size and development. Abnormal growing conditions are going to completely mask out the results of hormone thinning. Plans now are for extensive application of hormones for drop prevention at harvest time.—*C. Lyman Calahan, Sec'y, Burlington.*

MASSACHUSETTS, *July 7*—June was the driest month on record, with less than one inch of rain. No rain in July so far and none in prospect. Apples on better soils are OK but they can't be expected to hold out much longer. Most blocks have medium to heavy set, so if rain doesn't come soon apples will be small.—*W. D. Weeks, Dept. of Pom., Amherst.*

RHODE ISLAND, *July 5*—An apple crop about 60 per cent ahead of last year is expected, with McIntosh making up most of the crop. Scab control has been generally good. European red mite is building up and red-banded leaf roller is generally present. This pest is new to us as a major insect.—*E. P. Christopher, Sec'y, Kingston.*

CONNECTICUT, *July 10*—Wonder of wonders! We have had rain on and off for six hours, not hard but every drop helped soften the dry grass and earth.—*S. P. Hollister, Sec'y, Storrs.*

NEW YORK, *July 8*—Date and place of the State Horticultural Society summer meeting: August 8-9, at Amherst, Mass. Hosts: Massachusetts Fruit Growers Association, Inc. Visits will include Marshall Orchards, Fitchburg; John Chandler orchards, Sterling; Peck orchards, Shelburne Falls; and Rice orchards, Wilbraham.

There was an unusually heavy drop for all varieties of fruit in western New York and the Champlain Valley area but it looks as though we still have a good crop.—*D. M. Dalrymple, Sec'y, Lockport.*

NEW JERSEY—Recognition of the completion of 40 years of service by Prof. A. J. Farley to Garden State fruit growers was the occasion for an informal gathering recently at Jamesburg. Former associates, extension workers, fruit growers, representatives of commercial concerns, and friends made up the group of over 200 who surprised their honored guest.

Prof. Farley ("A. J." to his friends) joined Rutgers University staff in September, 1908, and was closely associated with Prof. M. A. Blake until the latter's death in 1947. He has been secretary-treasurer of the New Jersey State Horticultural Society since 1927. Under his direction over one million trees of the new peach varieties have been distributed by the New Jersey Peach Council. He is also secretary of the New Jersey Apple Institute, and operates a fruit farm in Monmouth County.—*Fred W. Jackson.*

PENNSYLVANIA, *July 8*—The Treesdale Farms at Mars is scheduling their first orchard field day for August 6. The program will include spray demonstrations (ground and air), inspection of plots treated with various materials for insect and disease control, and the stimulation of trees by the use of new fertilizers.—*J. U. Ruef, Sec'y, State College.*

DELAWARE, *July 12*—The fruit crop looks good. Early apples and peaches are somewhat small due to dry weather. Recent rains in scattered areas, however, should help to increase size on later varieties.—*Robert F. Stevens, Sec'y, Newark.*

MARYLAND, *July 7*—Our peach and apple crops are good. Several growers used Parathion, with favorable results for the spraymen but bad news for the red mite, curculio, and leaf roller.—*A. F. Vierheller, Sec'y, College Park.*

VIRGINIA, *July 7*—Our figure of nine and one-half million bushels for the State's 1949 apple crop still stands. With continued good moisture supply we should have a good crop of dessert varieties. The York is in short supply this year.

A two million bushel peach crop is expected, with Elbertas to start early in August.—*John F. Watson, Sec'y, Staunton.*

WEST VIRGINIA, *July 8*—Harvest of Montmorency cherries is nearing completion. Processors have been paying $200 per ton and growers are well satisfied with the deal as a whole. Peaches continue to promise a good crop. Some Transparent apples have been shipped but the market has not been satisfactory and some growers have placed their crops in cold storage, in the hope that the market would quickly reflect a better price and demand.—*H. W. Prettyman, Ext. Hort., Inwood.*

SOUTH CAROLINA, *July 5*—Our peach growers are really finding out that there is a lot of truth in the old saying, "A short crop gets shorter." At first it was anticipated that we might have survived innumerable periods of low temperature with about one-third of a crop. It appears now that we will be lucky to have about 25 per cent of a crop or 2500 cars or car equivalents. Varieties are bunching badly.—*Roy J. Ferree, Sec'y, Clemson.*

GEORGIA, *July 12*—As of July 10 some 727 carlot shipments of peaches had been shipped, in contrast to the 1788 carloads shipped during the same period in 1948.

Peach growers are generally much more worried about such diseases as brown rot and bacteriosis than they are about insect problems. The phony peach virus disease is widespread in both the south and middle Georgia peach sections. In one four-year-old orchard near Fort Valley, of 5,000 early Hiley and Pearson Hiley trees, approximately 1500 were removed this year as phony affected.

Bitter rot of peaches, formerly of very minor importance, is proving to be a serious commercial problem in the Fort Valley area.—*Earl F. Savage, Experiment.*

TENNESSEE, *July 11*—Summer fruit tour will be held August 17-18, going from Paris, Tenn., up through western Kentucky to Vincennes, Ind. A pre-tour barbecue will

PSYCHOLOGY AT WORK!

Carl Hayes

One of the reasons Prather's roadside Orange Grove Market, Irvine, Calif., does a thriving year-round business. This "lead" sign is a quarter mile from the market.

SATISFIED—AND HAPPY!

Rutgers University

Arthur J. Farley admiring a sample of the "Friends of Farley" glasses made to commemorate his 40 years of service to the fruit industry. (See N. J. news)

be held at 4:00 P.M. August 16 at the orchard of Tennessee State Horticultural Society president A. C. Jackson, Paris. For reservations, write or wire Mr. Jackson—*J. C. McDaniel, Nashville 3.*

OHIO—The setting for the summer meeting of the Ohio State Horticultural Society on August 17 is the Southern Ohio Orchards at Jackson, of which S. B. Vaughn is manager. Orchard Day at Ohio Experiment Station, Wooster, is August 18. Featured speaker at both meetings will be A. F. Vierheller, Maryland extension horticulturist.—*C. W. Ellenwood, Sec'y, Wooster.*

INDIANA—One of the largest crowds in recent years attended the summer meeting of the Indiana Horticultural Society, held at the Ferd Bolten orchards in Linton. Particular interest was shown in the test plots set up by Dr. Loren Steiner of the USDA Vincennes Laboratory to determine the effectiveness of Parathion for the control of scale and mites without the use of dormant oil. Another highlight was the visit of Dr. Leonard Haseman, head of Missouri's Department of Entomology, whose boyhood was spent near Mr. Bolten's farm.

Hoosier growers, especially in the north, are finishing a big thinning job. One grower spent $3000 to thin a 10,000-bushel apple crop.—*Lorne J. Doud, Pres., Wabash.*

MICHIGAN—The annual southeastern Michigan fruit tour on August 11 will include visits to the Stony Creek Orchards and the Romeo Orchards in the Romeo area and the Evarts Orchards in Metamora. Demonstration plots showing methods of pruning, spraying and irrigation of tree fruits will be the focus of attention.—*A. E. Mitchell, East Lansing.*

IOWA, *July 6*—Adequate rains during June have resulted in an appreciable increase in the size of apples. But the rains, high temperatures, and relatively high humidity have caused light apple scab infections and the comment: "In this area there still seems to be need for a mild but effective summer fungicide."—*Wm. H. Collins, Sec'y, Des Moines.*

MISSOURI—The Pike County Producers Association at Clarksville will be hosts for the summer meeting of the Missouri State Horticultural Society on August 16. The association is one of the larger producers of apples in the State. It also has probably the best equipped and arranged packing house in Missouri.—*W. R. Martin, Jr., Sec'y, Columbia.*

KANSAS, *July 6*—Fruit prospects at present look like a good 10-year average. Weather conditions have been ideal—plenty of moisture and very few destructive rain and windstorms.—*Geo. W. Kinkead, Sec'y, Topeka.*

OKLAHOMA, *July 5*—Heavy rains during June damaged fruit crops in some areas; however, prospects are good for peach, apple, and seedling pecan production.—*Fred LeCrone, Stillwater.*

MONTANA, *July 6*—The cherry harvest is just starting and will be in full swing around the 18th. A harvest of around two million pounds is expected.—*R. O. Young, Sec'y., Missoula.*

WASHINGTON, *July 8*—We are finishing up a very large cherry crop. The market was not too good but the quality of the fruit was excellent. We are in the midst of a fine apricot harvest. The peach crop is coming along in fine shape. We expect a good crop of high quality apples.—*John C. Snyder, Sec'y, Pullman.*

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MARKETING

PROGRAM FOR INCREASED PEACH CONSUMPTION

● Although this season's peach crop is estimated at 77.1 million bushels, which is 12 per cent greater than the 1938-47 average, considerably larger crops may be harvested in coming years if favorable growing conditions occur simultaneously in all peach growing areas. Crops of close to 100 million bushels are not far away.

Such record-breaking crops need not worry the peach grower if plans are made now and the market prepared to absorb this large production. This is a matter the National Peach Council has under consideration and steps are being taken to whet the nation's appetite for peaches and deliver them in prime, ripe, luscious condition at a fair price to the grower.

In February of 1948, the NPC outlined a comprehensive program of research designed to increase the use of peaches by overcoming key peach production and marketing problems.

Secretary M. J. Dorsey is vigorously promoting the program by meeting with growers at marketing clinics and by visiting with peach leaders in all the major peach growing sections. The program has been presented twice to USDA and State research workers for action under the Research & Marketing Act and has been received favorably.

In essence, the research program strikes at the heart of production, transportation, and marketing practices which urgently need modernization. For the grower the need is emphasized to determine effective controls to eliminate brown rot; to determine what is proper picking maturity, variety by variety; to develop practical ways of getting the orchard heat out of peaches immediately; and to eliminate rock crusher machinery and methods in the packing house. Under transportation, the effectiveness of refrigeration in trucks and railroad "reefers" is questioned, as is the effect of increased freight rates on distribution of peaches. The need is pointed out for less expensive and more efficient bulk containers, as well as the necessity for determining what is a proper "pack" as between full, bulge and slack, faced, etc., and for determining whether prepackaging should be done at shipping point, wholesale distribution point, or in retail store.

Present U.S. grades are questioned and the necessity is emphasized for developing practical methods for determining and enforcing maturity standards.

Do the desires of wholesalers as to style of packages, fullness of pack, maturity, facing, correspond with consumer acceptance, i.e., with the best interests of the peach industry, is another important point, as is the necessity for a study of wholesaler handling charges and the effect of the five-day week on peach marketing.

For retailers the NPC recommends a study of the methods of display and handling of peaches and brings up the question: Is bulk display, where customers pick over the fruit, wasteful and is refrigeration in store display advantageous? The need for consumer studies is emphasized to determine the effect of color, size, variety, maturity (hard, firm, or tree-ripe, immature, and over-ripe) grades, packages, etc.

If these problems pointing towards increased consumer acceptance were solved, 100 million bushel crops might not be considered as surplus. The Peach Council program deserves the thinking of every peach grower. For further information write Dr. M. J. Dorsey, 1502 South Lincoln Avenue, Urbana, Ill.

LOWER PRICES?

● The USDA deals briefly with 1949's fruit price forecast in its monthly agricultural outlook digest. The report says, "Prices of deciduous fruits this summer are expected to average lower than last. A larger total crop is in prospect. Smaller citrus fruit supplies probably mean higher prices than last summer."

To growers of fruit, which will be in plentiful supply, this again points out the need for closer grading and production of higher quality, more uniform packs. A grower's check list as harvesttime approaches should include the following:

1) Use pre-harvest sprays on apples to allow fruit to attain better color and maturity.

2) Stamp out bruising by handling fruit carefully in picking, packing, and shipping.

3) Put up a uniform pack, closely graded and correctly marked.

4) Give the customer his money's worth. A grower's reputation is the pack he puts out.

2,4-D . TCA . IPC

(*Continued from page 7*)

juring the strawberry plants. For best results it should be applied in the fall —September through November.

IPC can be applied to the chickweed either as a dust or as a spray. In either case 10 to 15 pounds of actual IPC per acre are sufficient for control. If the material is applied as a dust it should be diluted with a carrier such as talc or spray lime to insure coverage of the desired area in accordance with the recommended rate of application. It can be applied with a mechanical duster.

When the material is applied as a spray, the wettable form of IPC should be used in 75 to 100 gallons of water per acre. Since IPC is not completely soluble, large volume nozzles are needed, and the solution should be agitated.

Application on Raspberries

In raspberry plantings 2,4-D, if correctly used, will aid in controlling many of the broad-leaved weeds such as lambsquarter, pigweed, and Canada thistle. The rates of application suggested for strawberries are good also for raspberry plantings. It is important to spray when the weeds are small and before the raspberry plants have begun flowering. The nozzles should be held low and directed at the weeds at the base of the canes. Excessive amounts of 2,4-D on raspberry foliage will cause some twisting and bending of young leaves and shoots and will result in checking their development to some extent.

For control of grasses in raspberries and possibly in grapes TCA (Trichloroacetate) looks promising. This material controls grasses satisfactorily at rates of 30 to 40 pounds in 25 to 50 gallons of water per acre. Severe injury in the form of yellowing of the leaves and stunting of the plants will occur from excessive amounts of material or from applications made when the brambles are in an active stage of growth.

Late fall applications of TCA have shown the most promise to date for control of grasses. The material is applied after the old fruiting canes have been removed and the leaves have dropped from the young brambles. At this time the grass is usually still green and the raspberry plants are comparatively dormant.

In old plantings that have become sod-bound TCA will be of great aid in a rejuvenation program. By eliminating the grass growth in the row, the plants will increase in vigor and can be more easily sprayed for the control of anthracnose and other diseases and insects.

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Order Para-Scalecide now from your spray supply house, and be *sure* of getting safe, simple control of peach borers. 1 qt., 1.25; 1 gal., 2.90; 5 gal., 9.10. Slightly higher West of Ohio, the Virginias and Carolinas.

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From where I sit ... *by* Joe Marsh

Don't Fence Yourself In

Every spring, Handy Peterson and Easy Roberts patch up the stone wall that separates their farms. They walk along talking—Easy on one side, Handy on the other—picking up the fallen stones and putting them back.

Afterwards, over a friendly glass of beer, Easy says, "Wall-mending is a nice neighborly custom, but we really don't need that wall. We keep it up just because it happens to be there."

"Yes," says Handy, "a lot of walls and fences keep on separating people for no good reason. Maybe we'd all be better off if some of them were torn down, instead of kept standing."

From where I sit, Handy said a mouthful. Take the "walls of intolerance" that people build up against each other. I like a temperate glass of beer now and then, you may prefer buttermilk—but that's no reason for me to criticize you, or you, me. Let's live and let-live *together* — making *more* friends and *fewer* "walls."

Joe Marsh

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KEEP PEACHES COOL

(*Continued on page* 10)

Data obtained last summer show that commercially packed peaches, regardless of packing house treatment with sulfur or chlorine and with or without hydrocooling, showed only two per cent decay after 12 days in cold storage. After removal from cold storage, "Stericooling" gave the best protection for 144 hours at "store" temperatures of 75° to 80° F., or 19 days after harvest.

Dusting peaches with sulfur during the brushing operation ranked second in control of spoilage. Fruit held in storage 12 days showed 11 per cent decay 24 hours after removal from storage, 38 per cent decay in 48 hours, 42 per cent in 96 hours, and 71 per cent in 144 hours.

Apparently packing house treatment of peaches is beneficial, but only when the fruit is held under proper refrigeration can spoilage be kept to a minimum.

Refrigerated Shipments Studied

Through the co-operation of Dr. C. Guin Barr of the John Bean Division, Food Machinery and Chemical Corporation, and the Michigan fruit exchanges at Hartford, Coloma, Millburg, Watervliet, and Sodus, it was possible to trace railroad refrigerator car shipments from Benton Harbor, Mich., to New York City. The Railroad Perishable Inspection Agency of New York made possible inspection and comparison of six carlots of peaches "Stericooled" by the Millburg Growers Exchange and the Coloma Fruit Exchange and six carlots of fruit dusted with sulfur at the time of grading. The average time in transit and inspection was five and one-half days.

The amount of decay was less than one per cent. Three of the cars loaded with 45° F. "Stericooled" fruit showed no decay on the fourth and sixth day after shipping. One of the carlots loaded with warm, sulfur-dusted peaches showed no decay on the fourth day after shipping.

Hydrocooling the fruit before loading it in pre-iced refrigerated railway cars resulted in a saving of ice in transit averaging 4459 pounds per car between Michigan and New York. Loading "Stericooled" peaches saved fan-precooling time, also $15 per car charge for precooling warm-loaded fruit by means of removable fans.

The peach industry knows what is required to deliver a quality peach into the hands of the retailer and housewife. To reduce loss to everyone concerned, and to assure the reputation of a very popular fruit, is the business of all who are interested in the future of the Queen of Fruits.

CALENDAR OF COMING MEETINGS AND EXHIBITS

MANY horticultural society meeting dates for the fall and winter have already been set. These dates are being published at this time so that those societies whose plans are not yet complete can, if possible, arrange their meeting dates so they will not conflict with other meetings. An up-to-date list of dates will appear in the October issue of AMERICAN FRUIT GROWER.

Sept. 6-8—Northern Nut Growers Association, Inc., annual meeting, Plant Industry Station, Beltsville, Md.—J. C. McDaniel, Sec'y, 403 State Office Bldg., Nashville 3, Tenn.

Nov. 1-3—Florida State Horticultural Society 62nd annual meeting, Tampa.—Ralph L. Miller, Sec'y, Plymouth.

Nov. 16-18—Iowa Fruit Growers Association annual meeting, Memorial Union Bldg., Iowa State College, Ames.—Wm. H. Collins, Sec'y, State House, Des Moines 19.

Nov. 18-19—Montana Horticultural Society annual meeting, Polson.—R. O. Young, Sec'y, Missoula.

Dec. 5-7—New Jersey State Horticultural Society annual meeting, Claridge Hotel, Atlantic City.—Arthur J. Farley, Sec'y, New Brunswick.

Dec. 5-8—Washington State Horticultural Association 45th annual meeting, Wenatchee.—J. C. Snyder, Sec'y, Pullman.

Dec. 6-8—Michigan State Horticultural Society annual meeting, Civic Auditorium, Grand Rapids.—H. D. Hootman, Sec'y, East Lansing.

Dec. 7-8 (tentative)—Connecticut Pomological Society annual meeting, Hartford.—S. P. Hollister, Sec'y, Storrs.

Dec. 13-14—Oklahoma Pecan Growers Association annual meeting and nut show, Chandler.—Fred LeCrone, Asst. Sec'y, Dept. of Hort., Oklahoma A & M College, Stillwater.

Dec. 15-16 (tentative)—Tennessee State Horticultural Society, Inc., annual meeting, New Southern Hotel, Jackson.—G. M. Bentley, Sec'y, Knoxville.

1950 Meetings

Jan. 4-5 (tentative)—Maryland State Horticultural Society 52nd annual meeting, Alexander Hotel, Hagerstown.—A. F. Vierheller, Sec'y, College Park.

Jan. 4-6—Massachusetts Fruit Growers Association annual meeting, Worcester.—W. R. Cole, Sec'y, Amherst.

Jan. 10-12 (tentative)—New Hampshire Horticultural Society annual meeting.—D. R. Batchelder, Sec'y, Wilton.

Jan. 11-12—South Carolina Horticultural Society annual meeting, Spartanburg.—Roy J. Ferree, Sec'y, Clemson.

Jan. 11-13—Indiana Horticultural Society annual meeting, Muncie.—Lorne J. Doud, Pres., R. 1, Wabash.

Jan. 17-18 (tentative)—Maine State Pomological Society annual meeting, Lewiston.—Rockwood N. Berry, Sec'y, Livermore Falls.

Jan. 18-20—New York State Horticultural Society 95th annual meeting, Edgerton Park, Rochester.—D. M. Dalrymple, Sec'y, Lockport.

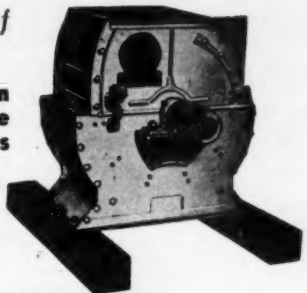
Jan. 23-25—Virginia State Horticultural Society 54th annual meeting, Hotel Roanoke, Roanoke.—John F. Watson, Sec'y, Staunton.

Jan. 25-27—New York State Horticultural Society eastern meeting, Kingston.—D. M. Dalrymple, Sec'y, Lockport.

Jan. 25-27—State Horticultural Association of Pennsylvania annual meeting, State Educational Bldg., Harrisburg.—J. U. Ruef, Sec'y, State College.

ALL of the JUICE

Because of Complete Crushing of Fruit Cells



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NUT GROWERS NEWS

Annual Meeting

Fortieth Annual Meeting, to be held at Beltsville, Md., September 6-8, 1949.

RETURNING to the Washington, D.C., area for their 40th annual meeting, members of the Northern Nut Growers Association, Inc., will see what has been accomplished with nut trees at the Plant Industry Station and nearby farms since they were there 12 years ago. A large nut variety collection has been growing up since then.

Two days, starting September 6, will be devoted to the convention program on nut trees and some other tree crops, and on the third day the delegates and others attending the meeting will tour the nut plantings and other points of interest in and near Beltsville.

Varied Program Planned

Dr. H. L. Crane, of Beltsville, principal horticulturist in the USDA Division of Fruit and Vegetable Crops and Diseases and chairman of our program committee, promises that a good program of varied topics will be arranged before the meeting takes place. Besides papers by USDA workers, there will be talks by others who are authorities in their fields, and general discussion sessions with growers from a wide territory represented.

Dr. Arthur N. Graves, consulting pathologist of the Connecticut Experiment Station, will report on his recent results in breeding blight resistant timber chestnuts, and will present a key for the identification of various chestnut species and hybrids. USDA workers at the Pecan Laboratory, Albany, Ga., will tell of tree nutritional studies involving radioactive phosphorus.

A tree crop to be discussed for the first time at NNGA meetings is the American holly, interest in which is active in Maryland.

Details of a new contest to locate superior seedlings of Persian walnuts (particularly the Carpathian strain) will be discussed at this meeting. Other features will be listed in the advance program, available on request from the secretary. Non-members, as well as members of the NNGA, are invited to attend if they are interested in nuts and tree crops.—*J. C. McDaniel, Sec'y, c/o Tenn. Dept. of Agr., Nashville 3, Tenn.*

EARLY DEFOLIATION OF SOUR CHERRIES IN RELATION TO WINTER INJURY

By WILLIAM C. KENNARD

The Pennsylvania State College

FOR THE last few years sour cherry growers in the East have been confronted with the problem of partial or complete defoliation of their trees during the summer due to cherry leaf spot.

This condition caused growers in the Biglerville, Pa., area to raise the question as to whether the unusual amount of winter injury which their trees suffered during the severe winter of 1945-46 was associated with the early defoliation caused by leaf spot the previous summer.

To determine the effect of early defoliation on the future behavior of cherry trees, experiments were started in 1947 in the cherry orchard at Pennsylvania State College. For purposes of the experiment, leaves were removed by hand from several Montmorency trees. Pairs of trees similar in size and foliage were selected. All or half of the leaves were removed from one tree of each pair, and the foliage of the second tree used for comparison was allowed to remain intact until natural leaf drop occurred late in autumn.

Small amounts of leaves on the test trees were removed periodically starting about the middle of June. This resulted in some of the test trees being completely defoliated by August 10 and others by September 1. On still other test trees only half of the leaves were removed by August 10 and no further defoliation was done.

A recommended spray program was followed, and the trees did not suffer from drought or excess soil moisture. Four pounds of nitrate of soda were applied on August 1 around each tree.

While samples of shoots developed in 1947 were cut from each of the trees during the winter of 1947-48 and subjected to different freezing temperatures in the laboratory, far more practical results occurred right in the orchard when on January 31, 1948, a low temperature of —19° F. was recorded.

The results of the tests showed that total defoliation of Montmorency sour cherry trees by September 1 or earlier was associated with increased susceptibility to low temperature injury the following winter and that blossoming was delayed the following spring.

On May 1, 1948, the check trees in the experiment were in full blossom, but the trees which had been completely defoliated by the previous September had about half of their blossoms open and many of the fruit buds were dead. On the same date the trees which had been totally defoliated by the previous August had no blossoms open and most of their fruit buds were dead.

The removal of half the total number of leaves during one season was not associated with increased susceptibility to cold injury.

Do your sour cherry trees look like this in September?

Sodium nitrate as used in this experiment did not result in a late flush of growth and its use was not associated with cold injury of check trees or those half or totally defoliated by September 1. Trees totally defoliated by August 10, however, were apparently more susceptible to cold injury when they had been fertilized with sodium nitrate on August 1 than defoliated trees not fertilized.

Horticulturists are generally agreed that the reason early defoliation causes a tree to be more susceptible to winter injury is that only a limited amount of sugars and other carbohydrates can accumulate in the tree under such conditions. Cherry growers, therefore, are urged to follow the recommended spray program of their area in order to keep the leaves on their trees until late autumn and thus promote maximum hardiness.

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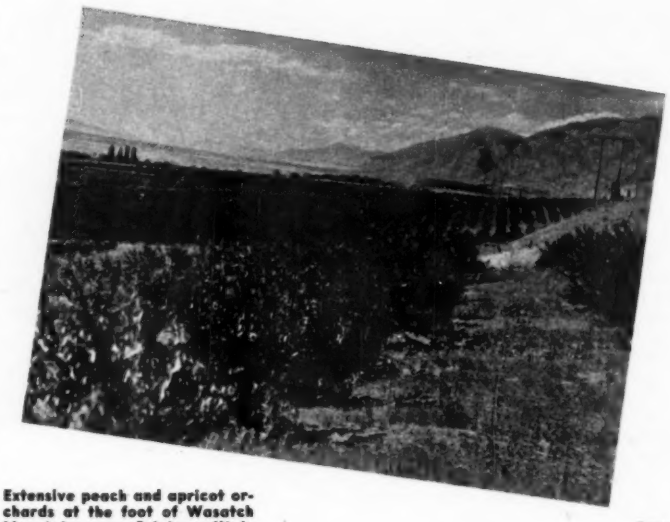
Ramblings OF A HORTICULTURIST

Fruit Growing in Utah

UTAH is noted for its Great Salt Lake and its Mormon Temple. But it has distinguished itself as a fruit growing State as well, although we little realize it. Utah's topography is mountainous with dry, sandy valleys between ranges and for this reason the cultivation of crops and orchards is limited. But if water can be had for the parched valleys, there seems to be no end to the agricultural possibilities.

Last July 14 I stopped in Logan, at the Utah State Agricultural College, to have a chat with Dr. S. W. Edgecomb, chief of the Department of Horticulture. He told me some mighty interesting things about Utah fruit growing.



Extensive peach and apricot orchards at the foot of Wasatch Mountains near Brigham, Utah. *Bonta*

Fruit is grown commercially in Washington, Grand, Utah, Salt Lake, Davis, Weber, Cache, Rich, and Box Elder counties. With the exception of Grand and Washington, all of these counties are near Great Salt Lake.

Washington County lies in the southwest corner of the State and is about 400 miles from the Salt Lake area. Consequently it has a growing season that is about three weeks longer than the area surrounding Great Salt Lake.

Practically all of Utah's fruit is grown to the east of Salt Lake.

Another interesting fact that Dr. Edgecomb pointed out is that the town of Logan, where the State College is located, lies in Cache Valley which is separated from the Great Salt Lake by the Wasatch Range. You can drive from Logan to Brigham on the northeast shore of the Great Salt Lake in a little less than two hours by crossing the beautiful Wasatch Mountains.

But when you do this you pass from one valley into another which has a growing season some three weeks longer, due to the tempering effect of Great Salt Lake. This makes it possible to grow fruits and other crops on the glacial till at the foot of the Wasatch on the eastern shore of the lake that cannot be grown so successfully just over the mountain in Cache Valley.

Brown rot, curculio, and Oriental fruit moth are practically unheard of in Utah, and growers know almost nothing of the ravages of apple scab. Codling moth does give them some trouble.

Peaches and cherries receive one spray each and apples about six sprays a year.

From a pest standpoint, it's about as ideal a spot to grow fruit as you can find.

Apples, cherries, and peaches are the fruits grown in greatest quantity. The State ranks fourth in sweet cherry production in the United States. Practically all of the production of these tree fruits is shipped to fresh fruit markets. In recent years strawberries, red raspberries, and cherries have been the most profitable fruit crops.

In Washington County some mighty fine European grapes can be grown but as yet no outlet for the fruit has been found, consequently plantings are at a minimum.

Elberta is the leading peach variety in the area. Of apple varieties the red sports of Delicious, Jonathan, and Rome Beauty now predominate. Bing and Napoleon are the leading sweet cherry varieties; Montmorency sour cherry is grown to a greater extent than any other; and Marshall strawberries and Latham red raspberries lead in the small fruit field.

Fertilization and irrigation are the biggest problems in fruit production in Utah; in fact, these are major problems in the entire Rocky Mountain region. We shall have a look at these the next time we get together for a short visit.—E.S.B.

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De Luxe 2-door Sedan

There's no tougher proving ground than a farm, and on the farm they call Chevrolet the most Beautiful BUY of all!

Yes, the toughest test *any* car can pass is use on the farm. Farmers demand more durability . . . more dependability. Chevrolet has proved itself the farmers' choice for value.

Then, too, farmers prefer the distinctive Chevrolet styling that remains modern and beautiful through the years.

America's farmers have given the new Chevrolet an overwhelming vote of confidence for its riding comfort, for its Valve-in-Head engine that stands up to the heaviest farm use . . . for its economy of operation and upkeep. On all these counts, today's farmer knows Chevrolet is the most Beautiful BUY of all!

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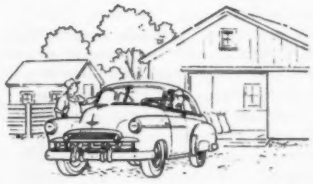
Farmers find that Chevrolet has extra roominess with "Five-Foot Seats" . . . loads of trunk space for the bulkiest bundles you buy on your trips to town . . . plenty of room for tools and equipment.

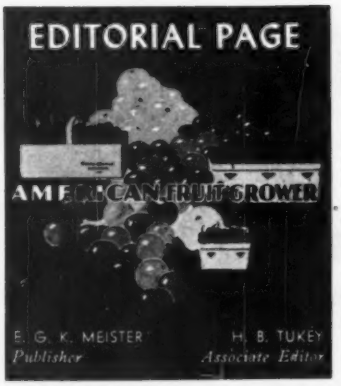
Chevrolet gives the farmer practical car styling . . . styling that is years ahead with more room, more comfort, more safety . . . lower center of gravity without loss of road clearance.

Farmers figure features against cost, and find Chevrolet delivers top value all the way. Chevrolet features can't be matched at Chevrolet prices . . . and that's why farmers prefer Chevrolet.



Farmers say Chevrolet's Valve-in-Head engine provides power aplenty for the toughest job—and it's easy on gas and upkeep costs. Power with economy makes Chevrolet the ideal farm car.

All of the family enjoys Chevrolet's improved visibility and the protection of its safety plate glass. The 30% increase in glass area means more pleasure . . . more safety.



Better Handling Through Precooling

PRECOOLING is an ambiguous word, a little bit hazy in its meaning, yet it carries a definite straight-from-the-shoulder message for fruit growers. As H. A. Cardinell points out in his article on page 10, no one can question the advantage of quick removal of heat from fruit immediately after picking. Quality is maintained and decay is retarded. Transportation icing costs are reduced and the consumer receives better fruit at the retail market.

Biggest news in precooling, bringing it closer to the means of every fruit grower, are two machines which have been highly successful. The California tunnel cooler precools grapes and the John Bean Stericooler is for peaches. The tunnel cooler, developed by USDA scientists, Pentzer and Barger, cools in one hour what formerly took 14 to 18 hours. The Bean Stericooler quickly reduces the temperature of peaches by spraying them with cold water containing a germicide for brown rot.

The tools for better handling of fruit are at the hands of every grower, either through individual or co-operative action. Widespread use of precooling devices is one answer to the problem of raising quality and thereby increasing fruit consumption.

No Substitute For Safety

THIS IS THE TIME of year when most farm accidents occur. In California two men on a spray tower were knocked unconscious when the tower touched high tension lines. In Maine a tractor moving up a hillside orchard overturned, killing the operator. A poorly placed ladder sent a New York grower to the hospital at the peak of cherry harvest. In our "Letters to the Editor" for this month is the story of another grievous farm mishap.

The tractor, the spray rig, the picking ladder, and the pruning saw are the fruit growers' most useful allies; but these able helpers can also be deadly enemies. Because safety needs continual emphasis, and because we are anxious to safeguard our fruit grower friends, we are sponsoring the contest outlined on the "Letters to the Editor" page. Your experiences may help others avoid accidents, so send them to our "Orchard Safety Editor."

Gourley Hall Of Horticulture

OHIO is erecting a new building on the grounds of the State Experiment Station at Wooster, Ohio, to house its growing Department of Horticulture. The new building will be named Gourley Hall in honor of Ohio's outstanding horticultural leader, Dr. J. H. Gourley, who was chairman of the Department of Horticulture from 1921 until 1946. This is a fitting tribute to a man who did so much to raise the standards of horticulture in his State.

It is also a monument to a man who gave willingly and unselfishly of his time and energy to all who chose to devote their attention to horticulture. His name will continue to inspire and stimulate those students and workers who will be the leaders in horticulture of tomorrow.

Apple Crop Grows

THERE IS an old saying, of which crop forecasters are fond, that as the season progresses a large crop will grow larger and a small crop will become smaller. Such was the case last year when the light apple crop diminished in size, and such seems to be the case—in reverse—this year. On June 16, the National Apple Institute guessstimated a crop of 112,500,000 bushels. On July 1st, USDA estimated 121,000,000 bushels and on July 21st, the NAI came out with a new estimate of 116,000,000 bushels.

Reason for the expanding crop seems to be the way the apple crop is sizing up in four key states, New York, Pennsylvania, Michigan and Washington State. Growing conditions have been favorable despite the severe drouth in the northeastern states which apparently did little damage to apples except in a few areas.

Favorable growing conditions mean high quality apples as well as an expanding crop. These reports are encouraging. Experience has shown that high quality apples will make quick sales if the price is right and if the apple trade from grower to retailer is alerted to push apples hard with vigorous sales drives this fall and winter.

Speed! Speed! Speed!

"SPEED" is the characteristic of our time. We see it in rockets and jet propulsion, in speedboats and luxury liners, in Diesel engines and automobiles, in road-gear tractors and sprayers. Telephone, telegraph, radio, television—all of these are to the modern accompaniment of "SPEED!"

Now speed has entered into the handling, marketing, and merchandising of fruits and vegetables. But it is not the sort of speed that most of us recognize. It is not the speed of conveyor systems, trucks, and fast freight. It is not a materialistic sort of thing; it is a psychological something-or-other. Some might call it efficiency or time saving, but Dr. Harry J. Eustace, in his article "The Profitable Art of Prepackaging" in the July issue, translates it into the modern term of "speed"—and it does make sense.

For example, the young wife stops in the self-service store on the way home from the office, the bridge club, the PTA meeting. She picks a package of this, a can of that, a couple of apples, a couple of oranges, some packaged dates, and some cottage cheese—and hurries home.

In the house she turns on the electric or the automatic gas range. By the time she has changed into a housedress or tied the bow on her apron, things are ready to go. Onto the broiler go the trimmed individual steaks, into the deep fat go the frozen string potatoes. The frozen peas find the saucepan waiting. Sliced apples and oranges, dates and cottage cheese become individual salads. A can of cold jellied consomme with a slice of lemon and a few crisp crackers complete the menu. Who could want more? And by this time friend husband is home from work.

This is the modern age. It is a fast moving age. The tempo is speed and more speed.

There are those who decry this spirit and ask for the good old days. They properly ask where does it get us? What good is it to our happiness and satisfaction and living? But to these questions the future and the philosophers must reply. All that we now know is that speed is the keynote and that the alert grower of fruits will think in these terms when he selects his varieties, grows his crops, prepares them for market, and satisfies the demands of modern packaging, merchandising, and the housewife.

"Never stand in the way of progress," says Dr. Eustace. "He who does, gets run over!"

Big News FOR HEAVY HAULERS

New "H" model heavy duty GMCs are the biggest truck news of the year . . . and for many years!

They comprise the most complete line of all-new, all-improved heavy duty trucks, gasoline and Diesel, ever introduced at one time . . . 61 basic models with weight ratings from 19,000 to more than 90,000 pounds.

They provide more important new features and advancements than any trucks in GMC history . . . exclusive GMC "Bumper-Built" front end . . . the industry's most powerful engines size for size . . . stronger, safer, roomier cabs . . . improved frames, springs, brakes, clutches, and axles.

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And they are priced to give substantial savings on the original investment . . . by including needed items of equipment which, in general practice, are added to the base price.

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Packed with *POWER*

Five power-packed gasoline engines, including a big new "707" of 225 horsepower. Two famous GM 2-cycle Diesel engines of 133 and 200 horsepower.

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Deeper, stiffer frames . . . heavier, wide-track front axles . . . longer front springs with shock-absorbers standard . . . big, fast-acting brakes.

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More leg room and head room . . . wider doors and windows . . . bigger windshields . . . built-in ventilation . . . snubbed seat action . . . complete insulation.

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ARE YOU GETTING YOUR SHARE OF THESE Bigger Apple Profits?

(above) STARK GOLDEN DELICIOUS and STARKING red DELICIOUS Apples like these—and Stark peaches, apricots, pears, plums, cherries, grapes, berries—command top prices on the nation's markets.

Growers of STARK GOLDEN DELICIOUS, red STARKING DELICIOUS Apples, and OTHER Stark Fruits report MORE bushels-per-tree. MORE dollars-per-bushel—often as much as 50% more! How much would you like to increase YOUR fruit profits?

WOULD you like to net at least $100 or $200 MORE per acre than you are now getting from your ordinary apple trees? Would you like to have trees that bear years YOUNGER, bear HEAVIER, and bear big crisp beauties that command TOP PRICES on today's market? Would you like to discover how the BIG money is being made today not only in apples, but also in peaches, plums, pears, cherries, apricots, grapes, berries?

Then you owe it to yourself to join the fruit growers who are enjoying year-after-year of steady prosperity with their STARK Fruit Trees . . . such as STARK GOLDEN DELICIOUS and red STARKING DELICIOUS Apple trees!

STARK GOLDEN DELICIOUS are larger than many other yellow apples, and have already been picked from 2-year trees in 38 states. STARKING DELICIOUS is a 100%-red apple that reddens all over *several weeks earlier* than Delicious, while still hard-ripe. Both apples keep all winter, and are of such unusual *size and flavor* that they command top market prices year after year.

1949 U. S. Dept. of Agriculture Report for Chicago Market (May 11) lists Starking Delicious, Extra-Fancy, at $7.00 per bushel box—MORE than any other variety listed!

U.S. DEPT. OF AGRIC. -- CHICAGO MARKET -- MAY 11
APPLES: STRAIGHT..STARKING DELICIOUS EX. FANCY
80...160s $7.00 PER BU. BOX.

What Growers Say about These Great Apples

"I have a Stark Golden Delicious tree 2 years old that has 40 or 50 apples on it!" — William Robinson, Washington.

"In spite of the coldest, most prolonged cold winter on record in our section—in spite of late spring frosts, causing other varieties in our orchard to fail—in spite of the hottest summer with the most severe and longest drought in the memory of our oldest inhabitant, *Stark Golden Delicious came through and produced a bumper crop of big, smooth, beautiful apples which we sold for $4-00 right in our orchards.*"—Rising Springs Orchards, Ill.

"My 500 Stark Golden Delicious 10 years old will harvest 12,000 bushels. I market them at 50% to 100% more than others."—E. F. Burgdan, Okla.

"We had four successive frosts while Stark Golden Delicious were blooming. Some clusters were so frozen that the spur died back to the limb, yet they produced a crop!"—W. O. Smith, Kentucky.

"I got 30% higher prices for my Starking Delicious apples than for Delicious. All my customers think the flavor and color simply wonderful."—Philip Weisbrod, Iowa.

"My Starking Red Delicious and Stark Golden Delicious trees are loaded. Some Starking trees average 13 to 14 bushels and they are beauties. I picked Starking that graded 64 to the bushel and even now (Sept.) they are bright red all over. That's the advantage Starking has over old Delicious—colors early and gets the high prices for the first Red Delicious on the market. The all-over-red Starking color makes them bring 10% to 40% more than Delicious year after year."—Frank Fenstone, Ill.

Luther Burbank

America's "Wizard of Horticulture" asked that Stark Bro's carry on his great work and introduce his new fruit creations.

Why STARK Apples, Pears, Plums, Cherries, Peaches, Berries, Are More Profitable

Everything the Stark family has learned in its 134 years of producing MORE SUCCESSFUL nursery stock goes into each tree we sell:

1. Each Stark fruit tree is a Record-Bearing strain propagated direct-in-line from a champion "parent" tree that has established an UNBEATEN RECORD for heavier bearing, or younger bearing, or larger-sized fruit, or better colored fruit, or a combination of these superior traits.

2. Our famous trademarked "OLD OAK PROCESS" method of grafting onto a special sealed root instead of a piece-root gives your new Stark trees a big "head start"—makes them stronger, younger-bearing, longer-living.

3. As the largest nursery in the world, we can spend a fortune in research for you. We have huge Test Orchards where 1000 new fruit varieties are studied—where a new variety must come through with "flying colors" before it is offered to YOU.

4. We are exclusive propagators and distributors of LUTHER BURBANK'S new and patented fruit creations.

Mail Coupon for Brand-New Big FREE Catalog

If you want to find out more about the EXTRA-PROFIT POSSIBILITIES—not only of Stark's apples, but also of our improved peaches, pears, plums, cherries, berries, and grapes—mail coupon below for our brand-new FREE catalog. This big book (over 1 foot long) shows glorious *natural color* photos of all our money-making fruit varieties—and our beautiful shade trees, shrubs, and roses too. ALSO FREE, if you mail coupon at once: our valuable Home Landscaping Book, showing how to add outdoor beauty and increased sales value to your home. Mail coupon NOW!

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Shows our 302 varieties of fruit, shade trees, shrubs, roses—in glorious full color!

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☐ Please send me, FREE, your big brand-new STARK CATALOG, showing in gorgeous natural color your 302 varieties of fruit, berries, shade trees, shrubs, and roses.

☐ Check here if you want to know how to save money on 10 or more trees, shrubs, or roses.

☐ Check here, for FREE HOME LANDSCAPE PLANNING BOOK AND PLANS, showing how outdoor beauty can be added to your home.

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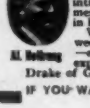
☐ CHECK HERE IF YOU WOULD LIKE TO MAKE GOOD WEEKLY MONEY introducing Stark Trees. Pleasant, easy outdoor work: spare time or full time. No experience needed to start.

"I Sold $1562 Worth of Trees in One Month, Spare Time"—AL. HELLRUNG



Al. Hellrung

AL. HELLRUNG makes new friends and $ extra money the whole year round—in pleasant, easy, healthful outdoor work—introducing Stark Fruit Trees (and Ornamental Trees, Shrubs, and Roses) to folks in his own locality.

Wouldn't YOU like to add to your weekly income the same way? Easy work—evenings, Saturdays, any time. No experience necessary to start—Charley Drake of Georgia earned $81.56 in his first week.

IF YOU WANT TO MAKE SPARE-TIME MONEY, CHECK COUPON HERE

Introducing Stark's exclusive varieties (not available anywhere else) is like being on a "second payroll." You get your prompt Stark check this week for last week's business. Folks welcome you—they've usually seen full-page Stark advertisements in national magazines and the gorgeous color Stark Fruit Tree Book. They've heard of famous Stark Bro's, World's Largest Nursery, founded 134 years ago. You don't invest a penny—work on our capital. We give you Display Outfit FREE with suggestions on whom to see, what to say.

FREE BOOK shows how *new beginners* can get nice pay checks one week after first orders. JUST CHECK BOX at bottom of coupon.